

Rhodora

JOURNAL OF THE
NEW ENGLAND BOTANICAL CLUB

Conducted and published for the Club, by

MERRITT LYNDON FERNALD, Editor-in-Chief

ALBERT FREDERICK HILL
STUART KIMBALL HARRIS

} Associate Editors

Vol. 51.

August, 1949.

No. 608.

CONTENTS:

Lindera melissaefolia. Julian A. Steyermark. 153

Epipactis Helleborine again. Ethel E. Upham. 162

Ranunculus texensis Engelm. antedated by *R. laxicaulis*
(T. & G.) Darby. Haskell Venard. 164

Some Corrections of Professor Jones's List of Vascular Plants
from St. Louis County, Minnesota. Olga Lakela. 167

The New England Botanical Club, Inc.

8 and 10 West King St., Lancaster, Pa.

Botanical Museum, Oxford St., Cambridge 38, Mass.

QK
1
R47

RHODORA.—A monthly journal of botany, devoted primarily to the flora of the Gray's Manual Range and regions floristically related. Price, \$4.00 per year, net, postpaid, in funds payable at par in United States currency in Boston; single copies (if available) of not more than 24 pages and with 1 plate, 40 cents, numbers of more than 24 pages or with more than 1 plate mostly at higher prices (see 3rd cover-page). Back volumes can be supplied at \$4.00. Some single numbers from these volumes can be supplied only at advanced prices (see 3rd cover-page). Somewhat reduced rates for complete sets can be obtained on application to Dr. Hill. Notes and short scientific papers, relating directly or indirectly to the plants of the northeastern states, will be considered for publication to the extent that the limited space of the journal permits. Illustrations can be used only if the cost of engraver's blocks is met through the author or his institution. Forms may be closed five weeks in advance of publication. Authors (of more than two pages of print) will receive 15 copies of the issue in which their contributions appear, if they request them when returning proof. Extracted reprints, if ordered in advance, will be furnished at cost.

Address manuscripts and proofs to

M. L. Fernald, 14 Hawthorn Street, Cambridge 38, Mass.

Subscriptions (making *all remittances* payable to RHODORA) to

Dr. A. F. Hill, 8 W. King St., Lancaster, Pa., or, preferably, Botanical Museum, Oxford St., Cambridge 38, Mass.

Entered as second-class matter March 9, 1929, at the post office at Lancaster, Pa., under the Act of March 3, 1879.

INTELLIGENCER PRINTING COMPANY


Specialists in Scientific and Technical Publications

EIGHT WEST KING ST., LANCASTER, PA.

CONTRIBUTIONS FROM THE GRAY HERBARIUM

- | | | |
|------------|---|--------|
| No. XX. | Reprinted from Proc. Am. Acad. xxxvi: 455-488. 1901.
1. Synopsis of the Genus <i>Melampodium</i> .
2. Synopsis of the Genus <i>Nocca</i> .
3. New Species and newly noted Synonymy among the Spermatophytes of Mexico and Central America. By B. L. Robinson. | \$.35 |
| No. XXI. | Reprinted from Proc. Am. Acad. xxxvi: 491-506. 1901.
Some new Spermatophytes from Mexico and Central America.
By M. L. Fernald. | \$.25 |
| No. XXII. | Reprinted from Proc. Am. Acad. xxxvii: 447-514. 1902.
1. The Northeastern Carices of the Section <i>Hyparrhenae</i> .
2. The Variation of some Boreal Carices. With 5 plates.
By M. L. Fernald. | \$1.00 |
| No. XXIII. | Reprinted from Am. Journ. Sci. Ser. 4, xiv: 167-194. 1902.
The Relationships of some American and Old World Birches.
With 2 plates. By M. L. Fernald. | \$.40 |

GRAY HERBARIUM of HARVARD UNIVERSITY, Cambridge 38, Mass.



Digitized by the Internet Archive
in 2023 with funding from
Kahle/Austin Foundation



LINDERA BENZOIN. FIG. 1, fruits and pedicels, from *Millspaugh*, Binghamton, N. Y.
LINDERA MELISSAEFOLIA. FIG. 2, fruits and pedicels, from *Steiermark 66947*, Ripley Co., Mo.; FIG. 3, portion of leafy branch, from *Steiermark 66947*, Ripley Co., Mo.

Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 51.

August, 1949

No. 608

LINDERA MELISSAEFOLIA

JULIAN A. STEYERMARK

(Plate 1151)

THE common Spice Bush (*Lindera Benzoin* (L.) Blume) is a well-known aromatic shrub of eastern and central United States and Canada. Its more southern relative, *Lindera melissaefolia* (Walt.) Blume, on the other hand, is very little known, and, if we may judge by preserved herbarium material, one of the rarest shrubs of the United States.

Although known since 1788, when Walter (*Flora Caroliniana*, p. 134) first described it under the name *Laurus melissaefolia*, during the past 160 years it has been collected but a few times, and is poorly represented in American herbaria. Subsequent to 1788 *Laurus diospyroides* Michx. (*Fl. Bor.-Am.* 1: 243. 1803), a photograph of the type of which has been kindly loaned me by the Director of the Gray Herbarium, and *L. Diospyrus* Pursh (*Fl. Am. Sept.* 1: 276. 1814) were referred by their respective authors (doubtfully in the case of Michaux) to Walter's *Laurus melissaefolia*.

Presumably, Walter's material was collected within a radius of 50 miles of his plantation, located "at the southern edge of the great swamp bordering the Santee River, in the coastal plain . . . within the boundary of present-day Berkeley County", South Carolina (Maxon, Wm. R. Thomas Walter, *Botanist. Smiths. Misc. Coll.* 95, no. 8: 1, 4. 1936). For his *Laurus diospyroides* Michaux does not indicate any specific localities, but does observe "Promiscue cum *L.[aurus] geniculata* habitans".

Since he states (p. 244) "in aquis stagnantibus Carolinae" for *Laurus geniculata* Walt. (= *Litsea aestivalis* (L.) Fern. RHODORA 47: 140-142. 1945), we may assume that the type of his plant, preserved in the Museum d'Histoire Naturelle de Paris, came from either North or South Carolina.

The early authors (Walter, Michaux, Pursh, Nuttall, and Nees ab Esenbeck) had no trouble in distinguishing *Lindera melissaefolia* from the more common and widespread *L. Benzoin*. Walter's original diagnosis (p. 134), in part, "foliis cordato-lanceolatis venosis, membranaceis, subtus pubescentibus", and that of Michaux (p. 243), in part, "foliis oblongo-ovalibus, subtus subtomentosis", emphasized the shape of the leaves, their prominent venation, and their pubescence on the lower surface. Michaux, and later Pursh, were also impressed by the low stature of the plant, referring to it as "humilis". The obtuse or subcordate base of the blade immediately distinguished it from the cuneate or tapering one found in *L. Benzoin*.

Beginning, however, with the treatment of the genus *Lindera* in A. De Candolle's *Prodromus* 15, part 1: 244. 1864, reference was made by Meissner under *L. melissaefolia* to a collection from the state of Missouri. Engelmann's name appears in the list of collectors cited by Meissner. An examination of a fruiting specimen occupying the left-hand side of the sheet in the Engelmann herbarium of the Missouri Botanical Garden shows that it has sparse pubescence on the midrib of the lower surface of the leaf of otherwise typical *Lindera Benzoin*. This is the only specimen in the Engelmann herbarium with foliage; the shape and acute base of the blade show, however, that this collection should have been referred to *Lindera Benzoin* instead of to *L. melissaefolia*. The fact that it had the midrib of the lower surface of the blade pubescent may have misled Meissner to include it under *L. melissaefolia*. along with the other specimens cited from Carolina and Alabama (the Virginia reference has not been substantiated by any collection known to have come from that state). Since that time, many collections having pubescent petioles and the leaf-blade more or less pubescent on the lower surface have been named indiscriminately as *Lindera melissaefolia* or *Benzoin melissaefolium*.

It was not until 1935, when Palmer & Steyermark described *Ben-*

zoin aestivale var. *pubescens* (Ann. Mo. Bot. Gard. **22**: 545. 1935) that the confusion caused by this pubescent *B. aestivale* was made known. On the basis of such pubescent specimens *Benzoin melissaefolium* had been given a wide range extending westward to Illinois and Missouri. The error of inclusion of this species for Missouri was perpetrated by various manuals and local floras. Tracy in his "Catalogue of the Phaenogamous and Vascular Cryptogamous plants of Missouri" in 1886, cites (p. 74) *Lindera melissaefolia* from Missouri, based upon a collection from Greene Co. by Professor Edward M. Shepard. Examination of Professor Shepard's plant reveals it to be *Lindera Benzoin* var. *pubescens* (*Benzoin aestivale* var. *pubescens*). Therefore, no true *L. melissaefolia* had ever been found in Missouri. Actually, the recognition of the pubescent variety of *Benzoin aestivale* left *B. melissaefolium* as a rare and little known species, confined, as far as the records up to 1935 went, to the Coastal Plain and Piedmont regions of the southeastern states.

During the latter half of October, 1948, on a collecting trip in the swampy lowland section of southeastern Missouri (actually an extension of the Mississippi Embayment of the Gulf Coastal Plain), in Ripley County, I chanced upon an area of undulating sand hills and depressions, 4 miles south of Naylor, near the Arkansas state line, and about $\frac{1}{2}$ mile west of the boundary separating Butler and Ripley counties. Most of the sandy knob land and higher ground were under intense cultivation, devoted to the raising of cotton, watermelon, squash, and beans. But between the knobs in the depressions, which, during the spring and early summer, are inundated and swampy, occurred a dense forest dominated by *Quercus palustris* and *Fraxinus tomentosa* (*F. profunda*). In a few spots in the area, some of the knolls, protruding above these depressed flats, are still covered by the original forest, and here occur *Acer saccharum*, *Euonymus americanus*, *Aralia spinosa*, *Corylus americana* f. *missouriensis*, *Asimina triloba*, *Cornus florida*, *Hydrastis canadensis*, *Desmodium rotundifolium*, and many other species not found in the wetter depressions.

While walking around the base of one of these knolls, I suddenly caught sight of a scarlet-fruited plant growing in an adjacent depression. Coming closer, I was immediately intrigued

by the relatively large size and abundance of the fruit and by the low stature of the plant. Although I had seen the common Spice Bush (*Lindera Benzoin*) just a while ago in the same area, this plant was distinctly marked by the thinner foliage with the base of the blade obtuse or rounded, and the lower surface conspicuously veined and without the pale or grayish-white color on the lower surface typical of *L. Benzoin*. The leaves also were in a drooping position instead of erect-ascending or spreading as in *L. Benzoin*. Looking around us, Mrs. Steyermark and I discovered that we were standing actually at the edge of a large colony of these shrubs which were covering the depression. All the shrubs were equally low-growing (from 2-3 feet high, although in another colony observed later, some were taller), and formed a dense low thicket. The numerous large scarlet fruits were conspicuous and very beautiful as they stand at this time of the year against the dark dull green foliage. I knew I had never before seen such a shrub anywhere, but, from what I had just observed, I judged that I had found the rare *Lindera melissaefolia*. Farmers in this region are acquainted with the shrub by the local name of "Pondberry". They state that the scarlet drupes are used locally as ammunition for "pop guns", tubular contrivances constructed from twigs of Elderberry (*Sambucus canadensis*) in this region.

Upon returning to Chicago, a critical study of the Missouri collection was made in comparison with material borrowed from the Gray Herbarium, Missouri Botanical Garden, the New York Botanical Garden, and the United States National Herbarium. In all these large herbaria there exists a total of only nineteen sheets, comprising only ten different collections, mostly all made over one hundred years ago! To the curators of these herbaria, and to the Curator of the Herbarium of the University of North Carolina, I am greatly obliged for the courtesy in loaning their material for study. Actually, loans were requested from all the herbaria of the southern states, but no specimens of true *Lindera melissaefolia* were found in the material sent by the curators of those herbaria. The following specimens of *L. melissaefolia* have been examined.

NORTH CAROLINA: wet flat near White Oak, Bladen Co., July 2, 1939, *Lionel Melvin* (NY, UNC); Chapel Hill, *Prof. Mitchell*

(NY); "North Carolina", *Schweinitz* (NY); Chapel Hill, cultivated from plant collected at White Oak, 1947, *W. C. Coker* (UNC). SOUTH CAROLINA: Since Walter's Flora Caroliniana covers a radius of fifty miles from his plantation (on the banks of the Santee River), his plant described in his flora must have come from somewhere within this area. GEORGIA: margin of pond in sand-hills of Little Ocmulgee River, Montgomery Co., Sept. 10, 1903, *Roland M. Harper*, no. 1989 (F, G, MBG, NY, US). FLORIDA: "Florida", *Chapman* (NY); "West Florida", *Chapman* (NY); "Florida", herb. Chas. Mohr (US). ALABAMA: Wilcox Co., 1839, *Buckley* (US); Wilcox Co., 1840, *Buckley* (G, NY). LOUISIANA: "Louisiana", *Hale* (G). MISSOURI: large stand in wooded depression, T 22 N, R 4 E, sect. 35, 4 mi. south of Naylor, Ripley Co., October 19, 1948, *Steyermark*, no. 66947 (F, G); same locality as previously cited above, Ripley County, Missouri, March 29, 1949, *Steyermark* 67084 and 67089 (staminate plants), and 67090 (pistillate plants) (F).

Evidently, then, judging by preserved collections, this shrub is a very rare one. Apparently, only three collections (including that of the present author) have been made in a wild state during the present century. Harper notes (*Econ. Bot. of Alabama*, p. 184. 1928) for the occurrence of this species in Alabama, that it is "a perfectly distinct species, but rare and little known. Said by Dr. Mohr to have been collected by Buckley near Allenton, Wilcox County; but apparently not seen in Alabama by any botanist in the last 75 years". Small, in his *Shrubs of Florida*, p. 85, 1913, states "about ponds and swamps, W. Fla.", but none of the specimens collected by Chapman in Florida mention any specific locality, nor did Small personally know the plant. Donald C. Peattie in his *Flora of the Tryon Region of North and South Carolina* (*Journ. Elisha Mitchell Scientific Soc.* 44, no. 1, p. 210. 1928) states that "Ashe in private correspondence with the writer reports finding this shrub near Melrose. Though there is no specimen, the report is perfectly reasonable and indeed probable", while Gattinger in his "Flora of Tennessee" (p. 84. 1901) states "not so frequent like the former. Cumberland Plateau". Both of these reports probably refer to misidentified pubescent *Lindera Benzoin*, since no authentic material of *L. melissaefolia* has been found in the herbarium of the University of Tennessee, nor in the flora of the Tryon region. Deam excludes it from his "Shrubs of Indiana" (p. 327. 1924), with the

statement that "This shrub was reported by Ridgway for the Lower Wabash Valley with a question mark. Since it has not been reported by any one else, it is not included in this list." It has, as yet, not been discovered either in Kentucky or Mississippi, and the single collection labelled "Louisiana" by Hale is the only record of its presumed occurrence in that state. Among the woody flora of the Charleston, South Carolina, area recorded by Hunt (Hunt, K. W. The Charleston Woody Flora. Am. Midl. Nat. **37**: 720. 1947), *L. melissaefolia* is mentioned only parenthetically, for we are told in his introduction on p. 683 that "In addition to the species and varieties of the catalogue, the keys include such additional species . . . as might possibly yet be found here. These are distinguished from the collected species by the use of parentheses". Therefore, so far as records go, Walter's original diagnosis of the species from the Santee River area of South Carolina is the only definite area in that state from which the species has been known. A recent collection (1927) from a wooded bank of the Santee Canal in Berkeley County, South Carolina, *Wiegand & Manning*, no. 1250, belongs with the common *L. Benzoin*. This is in the vicinity of the type locality of *L. melissaefolia*.

The Missouri record of 1948 is the most western one known at present, and occurs about 400 miles by air northwest of the nearest known locality (Wilcox County, Alabama). It was at first supposed that the Missouri material might differ from the specimens of the southeastern states, but careful study of details has not revealed any marked differences. It should be noted, however, that the Missouri specimens were collected in October, when the fruits showed their greatest maturity with corresponding maximum size, both as regards the fruit and the fruiting pedicels. When seen at this stage, the fruits are larger and of an obovoid shape, and the pedicels much longer than corresponding mature stages of development in *L. Benzoin*. The summit of the fruiting pedicels in *L. melissaefolia* is also much thicker and wider than in *L. Benzoin* (see plate 1151). Good mature fruiting specimens are apparently not available in the older collections of *L. melissaefolia*. At this late time of year (October), moreover, the foliage is larger and the lower surface of the blade less pubescent than in material collected earlier in

the season. It is also possible, of course, that the pubescence is somewhat variable in its degree, not only at different seasons of the year, but also in different localities. Nuttall (*Genera of North American Plants* 1: 259. 1818) noted that the fruits of *Euosmus* (*Laurus*) *Diospyrus* (= *Lindera melissaefolia*) were "larger than those of *E.[uosmus] Benzoin*", but he apparently is the only one to have brought out this observation. It is certainly evident in living material of this species.

Another difference not noted by earlier botanists is the fact that in *L. melissaefolia* the lowest two pairs of lateral nerves of the leaf-blades diverge at a greater angle (45–50°) from the midrib than do the successive ones above (only about 35°), thus making them at variance with the other lateral nerves (see plate 1151). In contrast, in *L. Benzoin* and var. *pubescens*, the lateral nerves are mostly all parallel to one another, diverging from the midrib at an approximately equal angle of 35–45°, thus presenting a more uniform appearance. Moreover, the much paler, almost glaucous, lower surface of the leaf-blades in *L. Benzoin* and var. *pubescens* is in marked contrast to the mostly concolorous blades of *L. melissaefolia*. As early as 1814 Pursh (*Fl. N. Am.* 1: 276) noted that in *Laurus Benzoin* the blades were "subtus albicantibus". Meissner (*ibid.*) also states that in this species the blades are "subtus subglaucescentibus". The venation on the lower leaf surface in *L. melissaefolia* is pronounced and conspicuous, whereas in *L. Benzoin* it does not stand out as such. Of course, the size of the shrubs is quite in marked contrast, as is the shape, venation, and base of the leaf-blade, and position of the foliage.

With the differences of mature fruit and foliage well in mind, the study of the two species was pursued the following spring in order to learn what, if any, differences in flowers might occur. Accordingly, a special trip was made during the last week in March of 1949 to the Missouri locality where *L. melissaefolia* had been found the previous autumn in a fruiting condition. Mr. Henry Hamlett, a farmer and keen observer of plant-life in the region where the *L. melissaefolia* occurs, wrote me that the "Pondberry", as it is known in that locality, was flowering. On March 29, then, I was back in the haunts of this rare shrub, with the opportunity of obtaining good flowering specimens.

Although various manuals and local floras state that the flowers in *Lindera* are dioecious, this information has not been followed up by collectors. An examination of available herbarium material reveals an abundance of staminate flowering specimens of *L. Benzoin*, but practically no pistillate collections. And, of course, for *L. melissaefolia*, it has been already stated that very few collections at all exist in herbaria.

The swampy depressions, which are the habitats for the Missouri station of *L. melissaefolia*, were filled with nearly a foot of water at the time I revisited them in March. The hundreds of plants filling the depressions were studded with pale yellow clusters of flowers of this species. Some plants only 0.5 meter or less tall were flowering. To my surprise, however, most of them having conspicuous flowers, proved, upon close examination, to be staminate. With a careful search, pistillate specimens were also located, but were in the minority. They had much less conspicuous flower-clusters.

On the knolls and adjacent drier ground, isolated bushes of *L. Benzoin* occurred. Here again it was observed that the conspicuous clusters of yellow flowers were entirely staminate. Pistillate plants were located with difficulty, due to their apparent scarcity together with their more reduced inflorescences. Apparently, then, here was the reason that collectors had invariably obtained staminate material in such preponderant quantities in contrast to the paucity of pistillate material collected; the staminate plants, being showier and more frequent, have caught the attention of the collector, while the pistillate plants, on the other hand, with their less conspicuous flowers, have been passed by either as too puny or undesirable for specimens, or else have not been carefully examined in the field.

A good series of staminate and pistillate collections of both species was obtained. Several striking differences were observable in the field. One of the most interesting noted was that the old fruiting pedicels of the previous year persist in *L. melissaefolia* through the period of anthesis of the following year, whereas in *L. Benzoin* they fall off during the winter, so that when anthesis occurs the following spring, they are not in evidence, as they are in the case of *L. melissaefolia*. In the field it is also apparent that the staminate flowers are larger in *L. Benzoin* than

in *L. melissaefolia*, whereas the pistillate flowers in *L. melissaefolia* are much larger and more conspicuous than the insignificant ones of *L. Benzoin*. In both species, therefore, the staminate flowers are the showier ones, the pistillate the less conspicuous and apparently less often encountered. An additional difference was also observed in the habit of growth between the two species. In *L. Benzoin* the plant is much larger, with a bushy, much-branched habit, whereas in *L. melissaefolia* the branching is much less developed and the plants are smaller in stature.

A summary of all the differences now found between *L. melissaefolia* and *L. Benzoin* and its var. *pubescens* may be stated in key form as follows:

Large shrub, mostly 1.6–4.5 meters tall, foliage erect-ascending or spreading, fragrant when crushed, but without a sassafras-like odor; leaf-blade thickish, firmly membranaceous, acute or cuneate at base, obovate, 4–15 cm. long, 2–7 cm. wide, pale or subglaucous on lower surface, glabrous, or in var. *pubescens* more or less pubescent at least on midrib and (or) lateral nerves of lower surface; lower surface of blade without conspicuous venation; lateral nerves mostly all parallel, diverging from midrib at an angle of 35–45°; petiole and buds glabrous, or in var. *pubescens* pubescent, 5–20 mm. long; fruiting pedicel slender, 3–4 mm. long, not conspicuously enlarged at summit, only 1–1.5 mm. wide at summit; mature fruit (in dried state) elliptic-oblong, 8–10 mm. long, 5–7 mm. wide; seed suborbicular, 7 mm. long, 5.5–6 mm. wide; winter buds glabrous, or in var. *pubescens* somewhat villous; staminate calyx-segments relatively broader, 1.5–2 mm. wide; staminate pedicels glabrous; filaments 0.3 mm. wide, dilated at base, 1.5 mm. long; pistillate calyx-segments relatively shorter and narrower, 1.5 mm. long, 0.5–1 mm. wide; pistillate pedicels relatively shorter, 1–1.5 mm. long; fruiting pedicels deciduous, not persistent to the next flowering season

Lindera Benzoin and var. *pubescens*

Low shrub, 0.6–2 mm. meters tall; foliage drooping, when crushed with a sassafras-like odor; leaf-blade thin, membranaceous, oblong, obtuse or rounded at base, 5–16 cm. long, 2–6 cm. wide, concolorous, slightly to densely pubescent on lower surface; lower surface of blade with conspicuous pronounced venation; lowest two pairs of lateral nerves not parallel to ones above, conspicuously more ascending and diverging from midrib at 45–50° angle, in contrast to the other lateral nerves which diverge at an angle of approximately 35°; petiole and buds pubescent, 5–15 mm. long; fruiting pedicels stout, 9–12 mm.

long, conspicuously enlarged at summit, 2.5-3 mm. wide; mature fruit (in dried state) elliptic-obovoid, 10-11.5 mm. long, 7-8 mm. wide; seed suborbicular, 7 mm. long, 6.25 mm. wide; winter-buds villous; staminate calyx-segments 1-1.25 mm. wide; staminate pedicels pilosulous; filaments slender, narrower, 0.1 mm. wide, not dilated at base, 1.8-1.9 mm. long; pistillate calyx-segments 1.5-2 mm. long, 1-1.25 mm. wide; pistillate pedicels 2.5 mm. long; fruiting pedicels persistent from previous year and lasting to time of anthesis. *Lindera melissaefolia*.

Since *Lindera* has been conserved over *Benzoin*, it is, of course, necessary to use the names *Lindera Benzoin* (L.) Blume, and var. *pubescens* (Palmer & Steyermark) Rehder, and *Lindera melissae-folia* (Walt.) Blume, as brought out by Rehder and by Fernald (see Journ. Arn. Arb. **20**: 413. 1939, and Rh. **47**: 140-142. 1945).

CHICAGO NATURAL HISTORY MUSEUM

EPIPACTIS HELLEBORINE AGAIN

ETHEL E. UPHAM

It is a pleasant experience for the botanist, expert or amateur, in the herbarium or in the field, when his find proves to mark an extension of range for the species. Such an experience was mine last summer. Three of us were exploring the rocky, thinly wooded bank of a little brook in the town of Southbridge, Massachusetts, and I, outdistancing the others for the moment, came upon an unfamiliar orchid, which, however, was soon identified as the interesting *Epipactis Helleborine* (L.) Crantz.

About fifteen plants of the orchid were found in the vicinity, approximately half of which were young plants without flowers. The date was July 25, and many of the blossoms which we saw were past their prime. One specimen was taken for the herbarium of the New England Botanical Club, and another is preserved in alcohol at the Ames Orchid Herbarium. An interesting feature of the latter is a fragment of rock to which the roots of the plant cling tenaciously. The roots had grown so tightly into the crevices of the rock that the latter had to be shattered before the plant could be taken.

A month or so later, in the course of a field trip of the Connecticut Botanical Society in the eastern edge of the town of Coven-

try, a single orchid, past blooming, was found. Though the plant was not seen by those members of the party best able to make positive identification, the group seemed satisfied that it could be none other than *Epipactis Helleborine*.

The first recorded finding of *Epipactis Helleborine* dates back an even seventy years, to August 2 and 6, 1879, on which respective dates it was found in the vicinity of Syracuse, N. Y., by Mrs. M. O. Rust and Miss M. P. Church.¹ New stations were discovered in 1881, 1882, and 1894. Metcalf and Griscom listed about twenty-five stations in New York State in 1917, and by 1933 the plant's range had extended eastward to the Hudson River. New Jersey has, or had, a single station, and western New England has now become fairly familiar with the plant. It is becoming quite common in Berkshire County, Massachusetts. The first known station east of the Connecticut River was in Plainfield, New Hampshire [see RHODORA, 44: 456 (1942)], and this was followed a few years later by its discovery on an island in Lake Winnepesaukee, in the town of Meredith [see RHODORA, 49: 60 (1947)]. The Southbridge and Coventry stations are believed to be the first ones east of the Connecticut in southern New England, and so denote a decided extension of range in that area.

The now accepted cognomen of *Epipactis Helleborine* is not the only one by which the plant has been known. *Epipactis latifolia* and *Serapias Helleborine* are well-known synonyms; *Amesia latifolia* was also applied to it, and there is little doubt that *Epipactis viridiflora* and *E. Helleborine* var. *viridans* (sometimes written *viridens*) refer to the same plant.

A brief glance at the literature regarding this interesting orchid is conducive to a more thorough reading. Torrey, 30: 46-50 (1930) gives Zenkert's interesting account of the remarkable behavior of the plant in the city of Buffalo, where it persisted for years as a weed. RHODORA, 50: 236 (1948) tells of its distribution and habits in Canada. *Amesia latifolia* is mentioned as

¹ The authority for this statement is H. D. House's article in Torrey, 33: 133 (1933). It, in turn, refers to a note in Bull. Torrey Bot. Club, 6: 329 (1879), which mentions the names of the ladies and closes with the following observation: "No plants are so eagerly sought for as orchids. Yet *Epipactis*, all these centuries, has shut itself up, waiting for the sharp eyes of the ladies of the Syracuse Botanical Club. What new discoveries are to be expected from their penetrating glances. *Place aux dames*."

having been found in Wisconsin [RHODORA, **33**: 140 (1931)]. Since there are also records of this orchid's occurrence in Missouri and Montana [in RHODORA, **42**: 521 (1940)], it seems apparent that it has spread in various directions from the probable place of its original introduction, western New York State.

One author (House) states that *Epipactis Helleborine* seems to prefer calcareous soil, and this statement is probably true. Zenkert, however, says it is not particular about the chemical composition of the soil, but is always associated with woods, past or present. It is said to prefer situations in the wild, but its behavior in the city of Buffalo seems to prove that it will grow in quite different situations.

Whatever the case may be, *Epipactis Helleborine* evidently takes kindly to our region. We can but conclude that a hunt for it on any botanical expedition in a habitat not manifestly impossible for its growth may be worth our while. My own intention is to search my favorite "South Woods" for it as thoroughly as my limited opportunities will allow. These woods have a habit of not letting me down; they are good woods, with rich soil which, though containing little lime, may quite possibly harbor a specimen or a colony of this interesting orchid. The present season will very likely bring to notice a number of new stations for the plant in New England.—EAST WOODSTOCK, CONN.

RANUNCULUS TEXENSIS ENGELM. ANTEDATED BY
R. LAXICAULIS (T. & G.) DARBY

HASKELL VENARD

SINCE the publication of Gray's Manual, ed. 7, 1908, *Ranunculus laxicaulis* (T. & G.) Darby has been used with two different meanings: 1) incorrectly, as a supposed earlier name for *R. ambigens* Wats., and 2) correctly, for the entity erroneously called *R. oblongifolius* Ell. in Gray's Manual, ed. 7, 1908 and in Britton & Brown's Illustrated Flora, ed. 2, 1913.

The correct application of the name was demonstrated by Fernald in RHODORA **41**: 541-2. 1939, and has not been questioned up to the present writing. It is in no sense a nomen ambiguum et confusum, and yet it has been adopted and aban-

done in both its meanings, mostly due to the discovery of supposedly earlier synonyms, with a frequency that is almost unparalleled.

The name is usually cited as *R. laxicaulis* (T. & G.) Darby, Bot. S. States 204. 1855.¹ On the basis of this date, it was recently reduced to the synonymy of *R. texensis* Engelm. (1845) by Dr. Lyman Benson in "A Treatise on the North American Ranunculi", Am. Midl. Nat. 40: 194. 1948.

The binomial was actually first published by Darby in Man. Bot. S. States, Part II. 4. 1841.² The citation of the part is necessary because of the separate pagination of the two parts, although they are included in one volume.

Although the wording of the descriptions is identical in the two works, Darby unfortunately cited no authorities for his binomials in his earlier work. Consequently, in complete citations, the later reference should be added to the earlier one in order to show that Torrey and Gray were the authors of the basonym.

One more point is of interest. On page 6 of the preface to the 1855 work, Darby refers to "a work the author published in 1842", which is obviously the one bearing 1841 on the title-page. This is a strong indication, though not proof, that the actual date of publication was in 1842. In the absence of proof to the contrary, the date on the title-page is assumed to be correct. Cf. the example given under Art. 45 of the International Rules concerning the publication date of the first volume of Adanson's "Familles des Plantes".

In order to trace the history of *R. laxicaulis*, it may be helpful to give the complete synonymy of both *R. laxicaulis* and *R. ambigens*, including references to nomenclatural and taxonomic treatments. The letters in parentheses refer to the use of a name in the following current manuals: G—Gray's Man. ed. 7.

¹ Darby, John. 1855. Botany of the Southern States. In two parts. Part I. Structural and Physiological Botany and Vegetable Products. Part II. Descriptions of Southern Plants. Arranged on the Natural System. Preceded by a Linnaean and a Dichotomous Analysis. New York: A. S. Barnes & Co. Cincinnati, H. W. Derby. John M. Cooper, Savannah. 612 pp.

² Darby, John. 1841. A Manual of Botany, adapted to the productions of the Southern States. In two parts: Part I. Vegetable Anatomy and Physiology. Part II. Descriptive Botany, arranged on the Natural System, preceded by an Analysis. Macon: published by Benjamin F. Griffin. 156 + 344 pp.

1908. B—Britton & Brown, Ill. Fl. ed. 2. 1913. S—Small, Man. SE. Fl. 1933. F—Fassett, Man. Aquat. Pl. 1940.

RANUNCULUS LAXICAULIS (T. & G.) Darby

R. Flammula L., var. *laxicaulis* T. & G. Fl. N. Am. **1**: 16. 1838.

R. pusillus Poir., var. *denticulatus* T. & G. l. c. (fide Benson in Am. Midl. Nat. **40**: 194. 1948.)

R. laxicaulis (T. & G.) Darby Man. Bot. S. States, Part II. 4. 1841 (?1842), as "*R. laxicaulis*"; Bot. S. States 204. 1855, as "*R. laxicaulis* (T. & G.)". Cf. Fernald in RHODORA **41**: 541–2. 1939, also Benson in Bull. Torr. Bot. Cl. **69**: 308. 1942. The page given by the Index Kewensis, "204", shows that the 1855 work, or one of its numerous later reprints, was used as the basis of the listing. (F)

R. texensis Engelm. apud Engelm. & Gray in Bost. Jour. Nat. Hist. (Pl. Lindh.) **5**: 210. 1845 (fide title-page). Cf. Benson in Am. Midl. Nat. **40**: 194–6. 1948, also Benson in Bull. Torr. Bot. Cl. **69**: 308. 1942, where the date of publication is given as 1847, apparently as a result of misinterpretation of the Index Kewensis entry, which refers to the date of the volume.

R. oblongifolius sensu many American authors, not Ell., which is *R. pusillus* Poir. Cf. Fernald in RHODORA **41**: 541–2. 1939. (G, B, S)

R. mississippiensis Small in Bull. Torr. Bot. Cl. **27**: 277. 1900. (fide Benson in Am. Midl. Nat. **40**: 194. 1948.) (S)

R. laxicaulis Darby, var. *mississippiensis* (Small) Benson in Bull. Torr. Bot. Cl. **69**: 309. 1942. ("A rather poorly differentiated variety.") Reduced to synonymy of *R. texensis* Engelm. by Benson in Am. Midl. Nat. **40**: 194. 1948.

RANUNCULUS AMBIGENS Wats.

R. Flammula L., var. *major* Hook. Fl. Bor. Am. **1**: 11. 1829. (fide Benson in Am. Midl. Nat. **40**: 183. 1948.)

R. alismaefolius sensu American authors of the middle 19th century, not Geyer, which is a plant of the western U. S. (e. g. Chapm. Fl. South. U. S. ed. 1. 1860, also Gray Man. ed. 5. 1867.)

R. ambigens Wats. Bibl. Ind. N. Am. Bot. **1**: 16. 1878. Proc. Am. Acad. **14**: 289. 1879. Cf. Fernald in RHODORA **38**: 173–5. 1936 and Benson in Am. Midl. Nat. **40**: 183, 185. 1948. (Used by Watson and Coulter in Gray's Man. ed. 6. 1889 and by Gray in Synopt. Fl. 1895.) (F)

R. obtusiusculus sensu many late 19th and 20th century authors, probably not Raf., which is a nomen dubium ("confusum" according to Benson, l. c.) Cf. Fernald in RHODORA **38**: 173–5. 1936. (B, S)

R. ambigens Wats., var. *obtusiusculus* sensu Davis, Minn. Bot. Stud. **2**: 494. 1900, probably not *R. obtusiusculus* Raf., basonym, nomen dubium.

R. laxicaulis sensu Robinson and Fernald in Gray's Man. ed. 7. 395. 1908, not *R. Flammula* β *laxicaulis* T. & G., basonym. (G) ATLANTA, GA.

SOME CORRECTIONS OF PROFESSOR JONES'S LIST OF VASCULAR PLANTS FROM ST. LOUIS COUNTY, MINNESOTA.—In the American Midland Naturalist, 40: 475–492, 1948, there appeared a list of vascular plants from St. Louis County, Minnesota, by Professor George Neville Jones. The list of some 428 species is based on his own collections, on those of Professor W. V. Balduf and of E. J. Hill, these last dating back to 1889.

During the last fifteen years I have devoted a considerable amount of time to collecting and studying the plants of St. Louis County for eventual writing and publication of a flora. Because Professor Jones reported a number of species which I have not encountered in the area, species not previously known in the state flora, it became necessary to verify his findings by examination of his collections. Naturally I asked Professor Jones for the privilege of seeing his plants, especially the species in question. My request for the loan of specimens was courteously granted.

A number of species in Professor Jones's list appear under names which clearly do not conform to accepted rules. However, the purpose of this note is not to dwell upon problems in nomenclature, but rather to straighten out his list by eliminating species erroneously credited to the state by misidentifications of common plants.

Thus, the report of the far western *Woodsia oregana* D. C. Eaton, Jones no. 18091, rests on a misdetermined specimen of *Cystopteris fragilis* (L.) Bernh. Similarly, *Carex Grayii* Carey, Jones no. 18182, is a sedge of common occurrence throughout the area, namely, *C. intumescens* Rudge. *Rumex occidentalis* Wats., Jones no. 18096 and two other collections, is *R. Patientia* L., a spreading weed. Some collectors have confused *Viola canadensis* L. with *V. rugulosa* Greene (for differentiating characters see Fernald in RHODORA 51: 52, pl. 1133. 1949) but Jones no. 18217 labeled as *V. canadensis* is *Viola pensylvanica* Michx. var. *leiocarpa* (Fernald & Wiegand) Fernald. Lastly, *V. palustris* L., Jones no. 18236, is *V. incognita* Brainerd, a ubiquitous white-flowered violet of Minnesota bogs.

An area like northern St. Louis County is not without possibilities for new discoveries and its rich flora affords opportunities for additional records. The remaining species in Professor Jones's list of "possibility" fall under the latter category, namely additional records; they have previous authors and they can be accounted for in synonymy. It may not be amiss to point out a few examples.

Agropyron subsecundum (Link) Hitchc. was reported for the state in Manual of the Grasses of the United States, p. 237, fig. 456. As to *Eleocharis palustris* L., most state collections have been referred to *E. Smallii* Britton (see Svenson in RHODORA, 41: 98, map 64. 1939 and 49: 62-67. 1947). Warren Upham reported it in the Catalogue of the Flora of Minnesota, also a reference for a few other species enumerated by Professor Jones, including *Eriophorum tenellum* Nutt. Regarding *Streptopus roseus* Michx., Jones no. 18384, the plant is not different from all the other Minnesota collections identified as *S. longipes* Fernald, listed by Moore and Tryon in Preliminary Checklist of the Flowering Plants, Ferns and Fern Allies of Minnesota, p. 25. Dr. Fassett reduced it to a variety of *S. roseus* but the typical *S. roseus* has an eastern distribution. See Fassett in RHODORA 37: 100, map 3 (1935). Rosendahl and Butters reported *Salix vitellina* L. as a variety of *S. alba* in Minnesota Trees and Shrubs, p. 70. For *Rorippa hispida* see Butters and Abbe in Rhodora 42: 26 (1940) for the combination *R. islandica* var. *hispida*. And *Geum strictum* Ait. is listed by Moore and Tryon p. 47 in their checklist, above cited, under the name, *Geum aleppicum* Jacq. var. *strictum* (Ait.) Fernald, but unnoticed by Professor Jones in making comparisons with his list. Lastly, Rydberg cited Minnesota specimens of *Stachys borealis*, Brittonia, 1. 95.—
OLGA LAKELA, University of Minnesota, Duluth Branch.

Volume 51, no. 607, including pages 129-152, was issued 13 July, 1949.

RATES FOR SPECIAL NUMBERS OF RHODORA

Many of the single numbers can be supplied only at special prices, as follows:

Vol. 12, no. 134: 50c no. 138: 45c	Vol. 37, no. 433: \$1 no. 435: 60c no. 436: 70c no. 437: 50c no. 439: 60c no. 440: 60c no. 441: 50c no. 443: 55c no. 444: 55c	Vol. 46, no. 542: 50c no. 544: 60c no. 545: 55c no. 546: 55c no. 547: 50c no. 548: 45c no. 550: 55c no. 551: 55c no. 552: 50c
Vol. 13, no. 151: 70c		
Vol. 14, no. 163: 60c		
Vol. 15, no. 171: 45c		
Vol. 16, no. 182: 45c		
Vol. 17, no. 193: 45c		
Vol. 18, no. 205: 50c		
Vol. 19, no. 224: 45c no. 225: 50c	Vol. 38, no. 445: 50c no. 448: 70c no. 450: 70c no. 455: 55c no. 456: 50c	Vol. 47, no. 553: 75c no. 554: 50c no. 555: 60c no. 556: 75c no. 557: 75c no. 558: 50c no. 559: 75c no. 560: 60c no. 562: 85c no. 563: 85c
Vol. 21, no. 241: 45c no. 243: 45c		
Vol. 23, no. 265: 45c no. 268: 45c no. 269: 45c no. 270: 45c no. 271: 45c no. 274: 45c no. 275: 45c	Vol. 39, no. 458: 50c no. 463: 55c no. 464: 75c no. 466: 55c	
Vol. 24, no. 279: 45c no. 283: 45c	Vol. 40, no. 471: 55c no. 476: 50c no. 477: 55c no. 478: 60c no. 479: 55c	Vol. 48, no. 566: 60c no. 567: 50c no. 568: 60c no. 569: 50c no. 570: 50c no. 571: 60c no. 572: 50c no. 573: 70c no. 574: 70c no. 575: 70c no. 576: 50c
Vol. 25, no. 296: 45c	Vol. 41, no. 482: 55c no. 486: 55c no. 487: \$1 no. 488: 60c no. 489: 95c no. 490: 50c no. 491: 50c	
Vol. 26, no. 304: 50c no. 305: 60c no. 306: 45c		
Vol. 28, no. 331: 45c		
Vol. 29, no. 346: 45c		
Vol. 30, no. 351: 50c no. 356: 45c no. 357: 45c	Vol. 42, no. 499: 50c no. 500: 60c no. 502: 50c no. 503: 70c	Vol. 49, no. 577: 50c no. 578: 60c no. 580: 60c no. 581: 70c no. 582: 80c no. 583: 75c no. 587: 50c no. 588: 50c
Vol. 31, no. 364: 50c no. 369: 50c no. 370: 50c	Vol. 43, no. 506: \$1 no. 509: \$1 no. 512: 50c no. 513: 50c no. 514: 70c no. 515: 75c	
Vol. 32, no. 374: \$1 no. 376: 45c no. 382: 50c no. 383: 45c		
Vol. 33, no. 386: 60c no. 388: 45c no. 389: 45c no. 391: \$1	Vol. 44, no. 520: 70c no. 525: 75c no. 526: 75c no. 527: 70c no. 528: 60c	Vol. 50, no. 589: 45c no. 590: 60c no. 591: 40c no. 592: 60c no. 593: 60c no. 594: 40c no. 595: 75c no. 596: 85c no. 597: 55c no. 598: 40c no. 599: 60c no. 600: 65c
Vol. 34, no. 403: 45c no. 407: 45c	Vol. 45, no. 531: 60c no. 532: 55c no. 533: 55c no. 534: 75c no. 535: 70c no. 538: 85c no. 539: 75c no. 540: 75c	
Vol. 35, no. 410: 50c no. 418: 50c no. 419: 50c		
Vol. 36, no. 425: 55c no. 426: 50c no. 429: 70c no. 430: 55c		

DUPLICATE BOOKS FOR SALE

- Braithwaite, R.** The Sphagnaceae or Peat-Mosses of Europe and North America. London. 1880. With 29 col. plates. ½ leather. \$ 5.00
- Brongniart, A.** Histoire des Végétaux Fossiles, ou Recherches Botaniques et Géologiques sur les Végétaux Renfermés dans les Diverses Couches du Globe. Paris, 1828-1837. 2 vols. 4°. pp. 572. With 199 plates in quarto and in folio. Facsimile reprint. 1915. \$75.00
- Coville, F. V.** Botany of the Death Valley Expedition. (Contrib. U. S. Nat. Herb. 4, 1893.) pp. 363. Plates 14 & Folding Map. Covers worn. \$ 4.50
- Hitchcock, A. S. and Standley, P. C.** Flora of the District of Columbia and Vicinity. (Contrib. U. S. Nat. Herb. 21, 1919.) pp. 329. Plates 42. \$ 3.00
- Mitten, W.** Musci Austro-Americani. Enumeratio Muscorum omnium Austro-Americanorum auctori hucusque cognitorum. (Journal Linnean Society, Vol. 12.) London, 1869. 8°. With 43 col. plates. ½ leather. \$15.00
- Nees von Esenbeck, C. G., Hornschuch, F. and Sturm, J.** Bryologia Germanica, oder Beschreibung der in Deutschland und der Schweiz wachsenden Laubmoose. 2 vols. Nürnberg. 1823-1831. 8°. With 43 col. plates. ½ leather. . . \$10.00
- Paris, E. G.** Index Bryologicus, sive Enumeratio Muscorum hucusque cognitorum . . . 1894-1898. Suppl. I, 1900 (Mémoires Herbar Boissier). 2 vols. in ½ leather. . . \$12.00

Prices include cost of transportation in U. S. A.

Address Librarian

GRAY HERBARIUM OF HARVARD UNIVERSITY
79 Garden St., Cambridge 38, Mass.

CARD-INDEX OF NEW GENERA, SPECIES AND VARIETIES OF AMERICAN PLANTS

For all students of American Plants the Gray Herbarium Card-index of Botanical Names is indispensable. It is a work of reference essential to scientific libraries and academies and all centers of botanical activity. It includes genera and species from 1885 to date. The subdivisions of species from 1885 to date are now included and from 1753 to 1886 are in the process of being inserted. Issued quarterly, at \$25.50 per thousand cards. Sets of paper facsimiles of issues 1-186 (through July, 1945) alphabeted in a single series can now be supplied for \$4,500 f.o.b. Massachusetts; issue 187 through 194 at \$22.50 per thousand.

GRAY HERBARIUM of Harvard University,
Cambridge 38, Mass., U. S. A.